UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,602	12/09/2003	Paul J. Gyugyi	NVDA P000860	4738

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EXAMINER
MAGLO, EMMANUEL K

ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/731,602	GYUGYI ET AL.
	Examiner	Art Unit
	EMMANUEL MAGLO	2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>28 March 2008</u>.
2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-8 and 10-30</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1,2,4-8 and 10-30</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>09 December 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Claims 3 and 9 are cancelled.

Claims 1, 2, 4-8, 10-30 are pending.

Claims 8, 13, 14, 16, 19, 24, 27, 28 are original.

Claims 1, 2, 4-7, 10-12, 15, 17, 18, 20-23, 25, 26, 29, 30 are previously presented.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-8, 10-14, and 22-29 are rejected under 35 U.S.C. 102(e) as being

anticipated by Elzur et al. (US 7,346, 701 B2), hereinafter referred to as Elzur

Regarding claim 1, Elzur describes a method of using *a delegated connection*

table, comprising:

initializing an entry with connection state corresponding to a connection selected

by a transmission control protocol (TCP) stack for processing by an offload unit (col. 15

lines 19-20, and fig. 9, entry shown corresponding to value in buffer table,)

updating the entry when a first frame is received for the connection, (col. 11 lines

31-33)

parsing the first frame to extract TCP payload data (fig. 11 step 110, in addition

col. 8 lines 21-29)

uploading TCP payload data to a memory (col. 14 lines 65-67 and col. 15 lines 1-9)

reading the entry when a second frame is transmitted for the connection (col. 15 lines 14-17)

Regarding claims 2 and 4, Elzur describes *updating the entry by copying portion of the second frame into a portion of the entry in the delegate connection when the second frame is transmitted, uploading payload data to a location specified in the entry within a memory space of the memory that is allocated to an application program* (col. 15 lines 1-7).

Regarding claims 5, 6 and 11, Elzur describes *notifying the TCP stack when the TCP payload data of the first frame received is updated by the offloaded unit to at least one of the legacy buffer, and* uploading *to a legacy buffer the TCP payload when the TCP payload data of the first frame that is in the portion of the memory that is allocated to the driver configured to interface between the offload unit and an application program* (see step 130 fig. 11 and col. 14 lines 10-19).

Regarding claim 7, Elzur describes receiving a *third frame that does not correspond to another entry in the delegated connection table* (for the frame is received from the Ethernet 60, fig. 8B and col. 12 lines 6-8).

Regarding claim 8, Elzur describes *a sequence number in the first frame does not correspond to a sequence number stored in the delegated connection table* (col. 15 lines 14-19, the TEEC may read the buffer information and may construct a mapping between TCP sequence numbers of the incoming packets and the host buffers. A

particular TCP sequence number may be mapped, for example, to the start of a specific

buffer or into some offset into a specific buffer).

Regarding claim 10, Elzur describes *uploading the payload data of the first frame*

to at least one legacy buffer that is in a first portion of the memory that is allocated to a

driver configured to interface between the offload unit and an application program when

a user buffer in a second portion of the memory that is allocated to the application

program is not available (fig. 3).

Regarding claim 12, Elzur describes *uploading any subsequent frames received*

for the connection, to one or more additional legacy buffers until resynchronization is

signaled by the TCP stack (col. lines 4-9).

Regarding claims 13 and 14, Elzur describes *resynchronization is accomplished*

by observing ACK numbers generated by TCP stack (see fig. 10 acknowledgment

blocks 250 causes availability of TCP acknowledges for the purpose of

resynchronization due to data retransmission, col. 17 lines 64-65).

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness or nonobviousness.

Claims 15-21 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Elzur et al. (US 7,346, 701 B2), hereinafter referred to as Elzur in view of

Odenwald, Jr. (US 6310884 B1) hereinafter referred to as Odenwald

Regarding claims15 and 16, Elzur describes *reading a connection match portion*

of the delegated connection table

determining the received frame corresponds to an entry in the connection match

portion of the delegate connection table (col. 13 lines 1-3)

reading a connection data portion of the delegate connection table that stores an

expected sequence number (col. 15 lines 40-43)

an acknowledgment (ACK) number (discussed above with reference to fig. 10)

timestamp data (fig. 10, timer 220 comprising TCP state code transmit and

retransmit timers, col. 17 lines 35-39)

parsing the received frame to produce payload data (fig. 11 step 110)

Elzur describes the claimed invention except explicitly *a count of*

unACKnowledged frames in the entry. Odenwald in the same field of endeavor teaches

a Data transfer method containing a count of frame received SEQ_CNT (fig. 9). It would

have been obvious to a person of ordinary skill in the art at the time the invention was

made to implement the frame count taught by Odenwald as a count of

unACKnowledged frames. The benefit is that such frames will be used to determine the

length of the received buffer.

Regarding claim 17, 18, and 19, Elzur describes

reading a connection buffer portion of the delegated connection table to

obtain user buffer information including a user buffer address and a corresponding user

buffer length of a user buffer that is stored in a portion of memory allocated to an

application program, and

requesting user buffer when the user buffer information indicates the user buffer

requesting a user buffer by setting a request buffer flag in the connection buffer portion

of the delegated connection table (see fig.9 and col. 15 lines 1-9)

Regarding claims 20 and 21, Elzur describes *uploading the payload data to a*

legacy buffer that is in a portion of the memory that is allocated to a driver configured to

interface between the application program and an offload unit including the delegated

connection table (See fig. 3 and col.11 lines 25-33).

Regarding claim 22, Elzur *describes*

a first storage resource configured to store user buffer information for delegated

connections including a user buffer length and a user buffer address corresponding to a

portion of memory that is allocated to an application program

a second storage resource configured to store delegated connection state

information for the delegated connections including an expected sequence number, an

acknowledgment (ACK) number, timestamp data, and a count of unACKnowledged

frames (fig. 2 element 270 comprising receive buffer 290 and transmit buffer 280, and

user buffer length and buffer address, fig. 9).

In regards to *an expected sequence number, an acknowledgment (ACK) number,*

timestamp data, and a count of unACKnowledged frames (see discussion of claim 15).

Regarding claim 23, Elzur *describes a third storage resource configured to store*

delegated connection identification information for the delegated connections including

a destination I P address, (fig. 4)

a source IP address, (fig. 4)

a source transmission control protocol (TCP) port, (fig. 4)

and a destination TCP port (fig. 6)

Regarding claim 24, Elzur *describes processing unit configured to write to the*

first storage resource (fig. 2 element 210)

Regarding claims 25-28, Elzur *describes*

transmit engine configured to access the second storage resource and parse

incoming frames and determine whether or not the incoming frame are valid, and

receive engine configured to access the second storage resource (fig. 10, DMA engine

270 for the receiving side, and transmit processor (or transmit engine) 230).

     <u>Regarding claims 29 and 30</u>, (see claims 15 and 16 above).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMMANUEL MAGLO whose telephone number is (571)270-1854. The examiner can normally be reached on Monday - Friday 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Maglo
Patent Examiner
June 3, 2008

/Hassan Kizou/
Supervisory Patent Examiner, Art Unit 2619